

purchaseable, or otherwise to be had, by our readers, will be found to be well worth any trouble that may be taken in procuring them.

Miscellaneous.

ELECTRO-TELEGRAPHIC PROGRESS.—The Submarine Telegraph Company are getting made several new metallic cables, in addition to that already in operation—one conductor being already insufficient to convey the multitude of despatches now exchanged between London and the Continent. The facility and certainty with which the telegraph has worked have already effected a great revolution in commercial arrangements, which would be thrown into confusion by the rupture of the communication. Night and day it is carried on. There is still a space of about a mile (from East Cliff to the South-Eastern Telegraph Office) unconnected by the wires. The distance has to be done by horse express, and, consequently, causes a few minutes' break in the communication. The desideratum is, however, to be speedily supplied. The number of telegraphic stations now open and in connection with the central station of the Electric Telegraph Company in Lothbury, amount to 226, embracing all the principal towns in the kingdom. Nearly seventy are principal commercial stations, at which the attendance is day and night: the length of the lines of communication extend over 2,500 miles, with 800 in progress of suspension. Since the partial reduction of charges, it is said, persons of all classes are availing themselves of its advantages for business purposes.

MASTERS AND WORKMEN: BREACH OF AGREEMENT.—On Friday week, a case came before the Hon. G. C. Norton, at the Lambeth Police Court, in which Mr. George England, of Old Kent-road, engineer, was pursuer, and Thomas Riding was charged by him with quitting his employment, while under a written agreement to act as his foreman, and re-engaging himself as foreman to Messrs. Langrage and Co., of Biddington, near Newcastle-on-Tyne, in whose service he was said to have made use of his experience in the construction of "The Little England" locomotive to the prejudice of the complainer. It appeared from the proceedings that Riding was under terms to work for Mr. England, at the rate of 7s. a day of ten hours, and that Messrs. Langrage gave him a salary of 200*l.* a year, besides a percentage on every engine he finished for them, and that his services were estimated as worth 500*l.* to the latter firm. For Riding it was stated that Mr. England had not given him 4*l.* a week, according to his agreement. This Mr. England denied, stating that his time some weeks averaged eight days, and, on the whole, must have averaged the sum contended for. His short time arose from want of light, as in winter. It was with great difficulty that Mr. England succeeded in giving this explanation, in the teeth of reiterated orders from the magistrate, and expostulations by the counsel for Riding, both of whom afterwards admitted that "the explanation was most necessary." It was shown that no use had been made of Mr. England's plans by Riding in his new employment. The magistrate was of opinion, however, that it was quite clear the defendant had violated the Act of Parliament; but, under all the circumstances, he thought he might mitigate the punishment, and therefore committed him to two months' hard labour instead of three.

DRAWING IN GENERAL EDUCATION.—The idea, early suggested in our pages, of making drawing as much an elementary branch of general education as writing, is fast spreading, and we have every prospect of seeing it ere long fully realised. At the annual meeting and *soirée* of the Gateshead Mechanics' Institution, which it appears was so fully attended that many ladies and gentlemen, including the committee themselves, were excluded from the tables from want of room, the president, Mr. Hutt, while stating in his address, reported by the local Observer, that the committee had established a school for drawing, as suggested by Mr. Scott, the master of the Newcastle

School of Design, went on to remark that a knowledge of drawing, hitherto little regarded in all schemes of education in this country, is of great practical advantage to every one, whatever may be his situation or calling in life. Of course to every one engaged in constructive industry some proficiency in drawing is indispensable. The joiner, the builder, or the engineer who is unable to delineate on paper the objects he is required to make, will never pass for a conjuror at his trade. But it is a mistake to suppose that an acquaintance with drawing is of value only to artists and mechanics. It is valuable to every man in every position of life. It is valuable, not only for its own direct purposes, but for training the eye to observe with precision and accuracy the objects which it sees, and for enabling the memory to retain them. Perhaps no one ever observes external forms with entire correctness, unless he is able to draw them; and if any person not accustomed to the pencil should doubt the justice of this assertion, let him try to delineate from memory any object with which he is most familiar—a tree which he has gazed at from childhood—the house which he has lived in all his days—and he will soon discover that his real acquaintance with the details of these familiar objects is very limited and imperfect.

INCrustATIONS IN BOILERS.—We find by an American paper that in Louisville, where the water is strongly impregnated with lime, coal tar is said to have been found to operate much better than any other agent yet experimented with in protecting boilers from corrosion by lime incrustations. The mode of application is as follows:—The boiler having been thoroughly cleaned, a pint of tar is poured inside, and, as the boiler is re-filled with water, the thin film of tar which floats on the surface attaches itself to the interior. Afterwards, a pint of tar per week to a boiler of about 28 feet in length, is poured amongst the water to maintain the coating at first produced. By these means, the lime deposit adheres to the tar instead of the iron, and can be removed, it is said, with comparatively little or no trouble.

—In coincidence with this plan, we observe that Mr. J. Ashworth, of Bristol, manager of the Great Western Cotton-works, has secured a patent for the employment of a certain compound of coal-tar, linseed-water, plumbago, or black-lead, and Castile, or other soap, for the same purpose. The following proportions are said to have been found to answer:—33 gallons of coal-tar, 21 gallons of linseed-water (prepared by boiling with the aid of steam, 14 lbs. of linseed in water, and then straining to remove the seeds and other impurities), 5 lbs. of plumbago or black-lead, and 9 lbs. of Castile soap (or soft-soap, but not with so much advantage). These ingredients form a creamy composition, of which, for a 30-horse power boiler, one gallon is introduced twice a week (the steam having been previously blown off). The impurities scale off and fall to the bottom of the boiler, whence they can be swept out, or otherwise removed.

IPSWICH NEW GRAMMAR SCHOOL.—Since Prince Albert laid the first stone of this building (concerning the designs for which, the mode of selecting the architect, &c., our readers will remember an unpleasant correspondence in our pages) the works have proceeded steadily. The roof was on, and was, as we are informed, about one-third covered with tiles, when the western wall yielded, and the building has consequently been shored up pending the determination of remedial measures to be pursued. We have received some communications commenting in bitter terms on this result of an improperly-managed competition, and pointing out other defects, such for example, as placing the floor so low that it will at times be overflowed; but this seems so much like "hitting a man when he is down," that we do not insert them. It is an open timber roof, and the thrust appears to have been too much for the wall. The local *Journal* says,—"We much doubt whether the construction was such as it ought to have been, or in accordance with those ancient roofs which have survived some centuries; and we may also observe, that the

western wall being perforated for large windows, had not that thickness which is required for such a roof. There were certainly buttresses to the wall, but these were not placed so as to sustain the thrust of the principal rafters. Most unaccountably the tiles were first laid upon the eastern slope, thereby causing a pressure upon the wall, which was not supported by the adjacent building. The consequence was, as we have mentioned, the western wall gave way, and we suppose will have to be taken down."

ARCHITECTURAL INSTITUTE OF SCOTLAND—SANITARY IMPROVEMENT OF GLASGOW.—Thursday night, Dec. 11, the first seasonal meeting of the Architectural Institute in Glasgow, was held in the Queen's Hotel—Sir James Campbell in the chair. Mr. Charles Wilson read a paper prepared by himself and the architects of the city, on the sanitary improvement of Glasgow. The subject was handled at great length, embracing the question in all its subdivisions, of width of streets, height of buildings, opening of thoroughfares, drainage, and supply of water. The whole was wound up with a scheme of sanitary improvement. The reading of the paper led to a discussion, in which Mr. W. G. Smith, Mr. Salmon, Mr. Finlay, Sir James Anderson, Mr. Carrick, Sir James Campbell, and the Lord Provost, took part.

LIVERPOOL ARCHITECTURAL SOCIETY.—The fortnightly meeting of this society was held on Wednesday, 10th inst.—Mr. Pictou in the chair. The chairman read a notice relating to the proposed architectural exhibition in London, to be held in the Portland Gallery, Regent-street. The chairman next alluded to the opening of the assize courts at St. George's-hall, on Monday, 8th inst., for the first time. He said the courts were not as large as they ought to be. The public accommodation was not consulted, for while the barristers had ample sitting room, there were no seats for strangers. The next defect was the bad hearing. The sound appeared to him to go behind the judge, instead of forward. Mr. Vereker suggested that a deputation of the members might investigate the causes of the deficiency of sound. Mr. Barry then read a paper upon the arrangement of workhouses, which embraced some remarks upon the present workhouse system. The subject for the next meeting was announced to be a paper by Mr. E. H. Strype, "On the influence of fine-art schools."

MONUMENT TO THE LATE GEORGE STEPHENSON.—A meeting of the committee was held on Wednesday week at the Euston Hotel, Euston-square. Mr. Glyn took the chair. Mr. Geach, M.P., having been called upon to read the report, said the exertions of the sub-committee had been confined to the obtaining such subscriptions as could be raised in a quiet way, for they thought it was not necessary to raise a large sum of money, but rather to get subscriptions from a large number of persons. A general desire to contribute had been expressed by workmen, especially in the districts where the late Mr. Stephenson was well known. The result was that, with little publicity and very small solicitation, 178 subscribers had contributed 2,560*l.* 15*s.* 6*d.*, and 3,150 workmen had given 285*l.* 2*s.* 7*d.* The expenses amounted to 72*l.* 18*s.* 4*d.*, and the balance available was about 2,800*l.* That sum the committee believed to be quite sufficient; but if there should be any deficiency, the committee had authority for saying there would not be the least difficulty in making up the required sum. Mr. Ellis, M.P., then moved that the monument should be erected in London; and Mr. Geach subsequently moved that the directors of the London and North-Western Railway be requested to set apart a site at the entrance of the Euston-square station. A committee was then appointed, and the meeting separated.

BUILDING FOR THE AMERICAN EXHIBITION.—The building designed for this purpose by Sir J. Paxton is about 600 feet long, and 140*ft.* wide, in three aisles. The roofs are sloping and slated, and have timber principals, which would require careful construction. There are turrets at the angles, and piers with lamps surround the whole.